Notice of Allowability	Application No.	Applicant(s)	
	10/734,065	MURRAY ET AL.	
	Examiner	Art Unit	
	ALEX NOGUEROLA	1753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *01/20/2006*.

2. ☒ The allowed claim(s) is/are *1-3,5-8,11-16 and 20-30*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

DETAILED ACTION

Allowable Subject Matter

1. Claims 1-3, 5-8, 11-16, and 20-30 are allowed.

2. The following is an examiner's statement of reasons for allowance:

a) Claim 1 requires the polymer film to comprise methylpyrrolye. In Dong the film comprises unsubstituted polypyrrole and chloride ions. See the abstract and Experimental_on page 1525. Applicants have found that the conductivity of a methyl pyrrole film will be less influenced by higher concentrations of base than a polypyrrole film. See paragraphs [0048], [0049], and [0056]. In Sjöberg the film comprises poly(3-octylthiophene) and tridodecylmethylammonium chloride. See the abstract and 2.2 **Electrode Preparation on page 821.**

b) Claims 2 and 3 depend from allowable claim 1.

c) Claim 5 requires the film to comprise polypyrrolye *and polystyrene sulfonate* or poly-methylpyrrole. In Dong the film comprises unsubstituted polypyrrole and

chloride ions. See the abstract and Experimental_on page 1525. Applicants have found that the conductivity of a methyl pyrrole film will be less influenced by higher concentrations of base than a polypyrrole film. See paragraphs [0048], [0049], and [0056] of Applicants' specification. Also, "... polystyrene sulfonate is an anionic polymer that improves the physical characteristics of the film, such as toughness and adhesion, among others." See paragraph [0058] of Applicants' specification. In Sjöberg the film comprises poly(3-octylthiophene) and tridodecylmethylammonium chloride. See the abstract and **2.2 Electrode Preparation on page 821.**

d) Claims 6-8 and 12 depend from allowable claim 5.

e) Claim 11 requires the pair of electrodes to comprise gold electrodes. In Dong one electrode is a glassy carbon electrode the other electrode is a saturated calomel electrode (Hg, Hg_2Cl_2). See **Experimental - Potential Measurement of the Film Electrode.** Similarly, in Sjöberg one electrode is a glassy carbon electrode the other electrode is a saturated calomel electrode (Hg, Hg_2Cl_2). See **2.2 Electrode Preparation** and **2.3 Potentiometric Measurements**.

f) Claim 13 requires the film to comprise methylpyrrole or polypyrrolye *and polystyrene sulfonate*, or poly-methylpyrrole. In Dong the film comprises

unsubstituted polypyrrole and chloride ions. See the abstract and Experimental on page 1525. Applicants have found that the conductivity of a methyl pyrrole film will be less influenced by higher concentrations of base than a polypyrrole film. See paragraphs [0048], [0049], and [0056] of Applicants' specification. Also, "... polystyrene sulfonate is an anionic polymer that improves the physical characteristics of the film, such as toughness and adhesion, among others." See paragraph [0058] of Applicants' specification. In Sjöberg the film comprises poly(3-octylthiophene) and tridodecylmethylammonium chloride. See the abstract and **2.2 Electrode Preparation on page 821.**

g) Claims 14-16 and 20 depend from allowable claim 13.

h) Claim 21 requires "a transmitter on the sensor platform for transmitting to an interrogation unit a response signal based on a chloride measurement." In Dong and Sjöberg the measurement electrode is a separate electrode from the reference electrode and thus the pair of electrodes are not on a sensor platform and the conductive polymer film is not disposed in contact with the pair of electrodes. See in Dong **Experimental - Potential Measurement of the Film Electrode** and in Sjöberg **2.2 Electrode Preparation** and **2.3 Potentiometric Measurements.** Guiseppi-Elie discloses providing a set of electrodes on a sensor platform and a conducting polymer over at least two of the electrodes.

See the abstract and Figures 1A-C. However, there is no transmitter on the sensor platform and the sensor is not adapted for measuring chloride ion concentration. From Figure 1A and the examples one with ordinary skill in the art at the time of the invention would understand that the electrodes on the sensor platform are directly connected to an interrogation unit via wires not through a transmitter on the sensor platform. See, for example, Figure 8B and col. 21:54 – col. 22:4.

i) Claims 22-24 depend directly or indirectly from allowable claim 21.

j) Claim 25 requires the steps of "placing the substrate in an electrolyte solution of lithium chloride and *methylpyrrole* [emphasis added]" and "after said step of placing the substrate in the electrolyte solution, applying cyclic voltammetry to form a polymer film in contact with the electrode." In Dong "[t]he *polypyrrole* (Ppy) was prepared on a glassy carbon (GC) surface from an aqueous containing *Py* and LiCl using cyclic voltammetry (CV) as described previously [emphasis added]."[10] See the first sentence of **Experimental – Electrochemical Polymerisation** on page 1525. Applicants have found that the conductivity of a methyl pyrrole film will be less influenced by higher concentrations of base than a polypyrrole film. See paragraphs [0048], [0049], and [0056] of Applicants' specification.

k) Claims 26-30 depend directly or indirectly from allowable claim 25.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALEX NOGUEROLA whose telephone number is (571) 272-1343. The examiner can normally be reached on M-F 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NAM NGUYEN can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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AU 1753
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